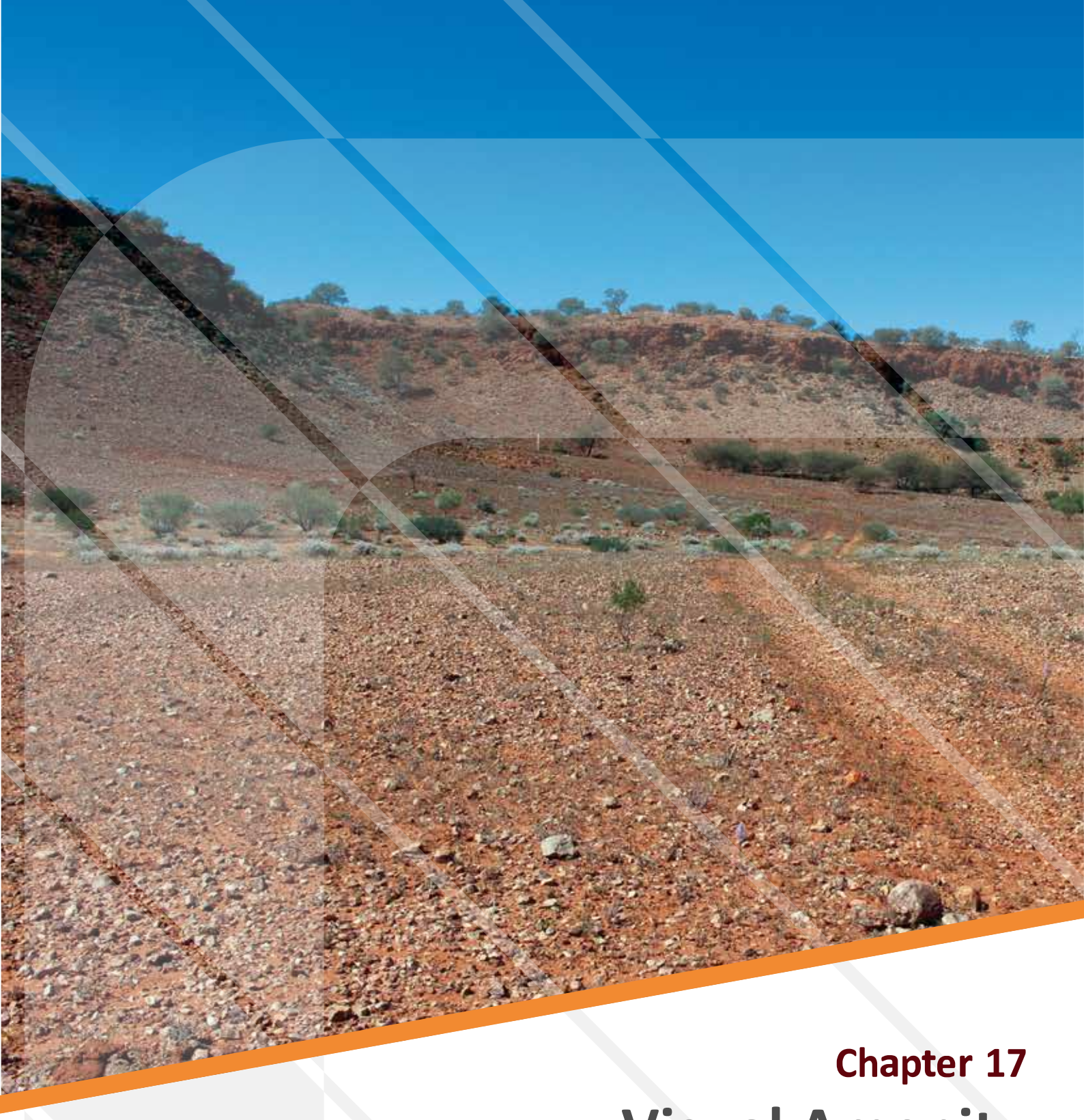

Chapter 17
Visual Amenity

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ABBREVIATIONS

CEMP	Construction Environmental Management Plan
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
GIS	Geographical Information System
GPS	Global Positioning System
OEMP	Operation Environmental Management Plan
RCP	Rehabilitation Closure Plan

17 VISUAL AMENITY

17.1 Introduction

This chapter provides a review of the visual and landscape values that may be potentially affected by the Proposal. The assessment considers the visibility of the Proposal (specifically, the proposed Chandler Facility and Apirtna Facility). The potential visual impacts on sensitive visual receptors and on the landscape character of the area are assessed. Mitigation measures to reduce potential visual and landscape impacts are provided.

The assessment has been with reference to the *Guidelines for Landscape and Visual Impact Assessment* (IEMA 2013) and in accordance with the Terms of Reference (refer to Appendix A).

17.2 Assessment methodology

The assessment of visual impacts for the Proposal followed the principles set out in *Guidelines for Landscape and Visual Impact Assessment* (IEMA 2013) and involved undertaking the following tasks:

- Reviewing background information.
- Defining the study area by using a zone of theoretical visibility.
- Describing the existing landscape and potentially sensitive visual receptors.
- Undertaking field investigations to confirm desktop assessment and to describe the existing landscape to visually confirm views from the sensitive visual receptors.
- Assessing the potential landscape and visual impacts with a focus on the identified sensitive visual receptors (through a view shed analysis and through field investigations).
- Providing mitigation and management measures to reduce potential landscape and visual impacts.

17.2.1 Review of background information

The desktop assessment involved the interpretation of different land based, publicly available maps, containing information relating to local and regional topography; land uses; soils; biodiversity and cultural heritage. A GIS was used to collate and combine the data. Together, the above process allowed a 'zone of theoretical visibility' to be set and sensitive visual receptors to be identified for ground truthing during field investigations.

17.2.2 The study area

The study area for the visual impact assessment included the following sites (infrastructure) and their surrounding visual catchment:

- Chandler Facility, divided into:

- Accommodation village.
- Mine infrastructure area.

- Apirnta Facility
- Access and haul roads.

The surrounding visual catchment at each site is described as the zone of theoretical visibility. The zone of theoretical visibility sets an approximate limit for visual receptors that have the potential to be impacted by the Proposal. For the purpose of this assessment, the zone of theoretical visibility was set at a conservative limit using a 25 kilometre radius from the centre of the proposed Chandler Facility and Apirnta Facility. The zone of theoretical visibility for the Proposal is presented in Figure 17-1.

17.2.3 Assessing potential landscape and visual impacts

Landscape impacts were assessed qualitatively based on field investigations. Visual impacts on identified sensitive visual receptors were assessed via a view shed analysis and field investigations.

Field investigations

Field investigations were undertaken over a period of one year to account for seasonal variations at each site. Photographs from each compass direction were taken from potential sensitive visual receptor locations. GPS co-ordinates and field notes were recorded at each strategic location so that future photographs can be taken at the same location to monitor the change that would occur as a result of the Proposal. Field notes included information relating to landscape type, character and individual elements that significantly contribute to uniqueness or visual amenity.

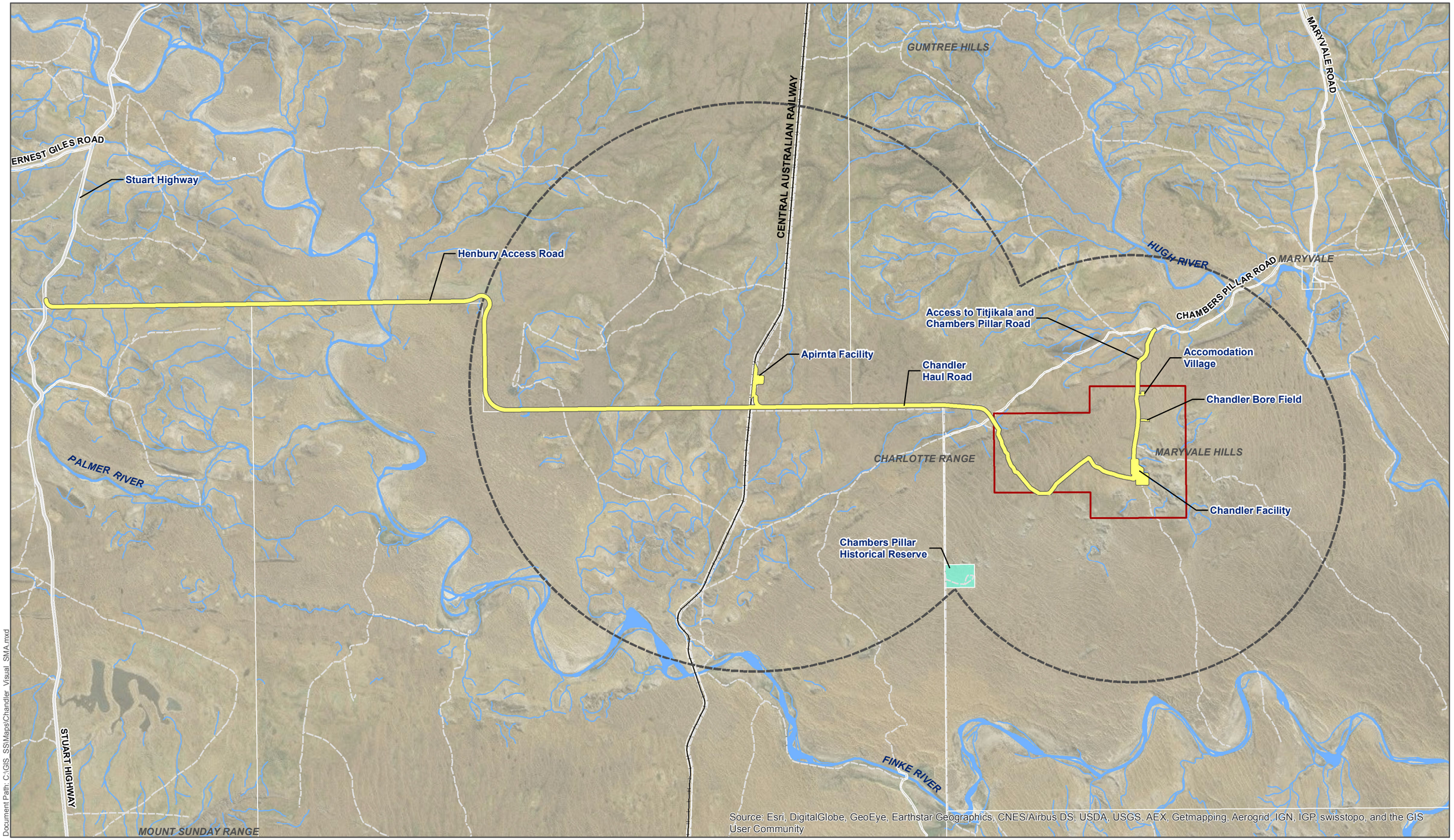
Consultation with Traditional Owners was also undertaken during ecological and cultural heritage field investigations which has contributed to the evidence, knowledge and understanding of key landscape features identified and assessed in the visual impact assessment.

View shed analysis

A view shed identifies terrain (or pixels) visible from an identified location. This tool considers the height of surrounding pixels and the gradual curve of the earth over a large area. The terrain model represents a nominal ground surface and does not portray features such as trees. As such, additional screening by vegetation could further reduce the visibility extent shown in the view shed.

A view shed analysis was prepared to understand the potential visual impacts of aboveground infrastructure at the Apirnta and Chandler Facilities. The objective was to show the proportion of the Proposal or particular features that would be visible from an observer at eye height (1.50 metres to 1.80 metres) for structures that are either 20 metres or 40 metres above the existing ground surface.

Distance of the viewpoint from the Proposal and whether a viewer would be able to see it due to its scale and proximity. Stationary or transient or one of a sequence of views, e.g. from a moving train along the Central Australian Railway (as would be the case for the proposed Aprinta Facility).



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Coordinate System:
GDA 1994 MGA Zone 53

Legend

- Existing road
- Existing track
- Watercourse
- ML30612
- Proposed development footprint
- Zone of theoretical visibility

Figure 17-1
Zone of theoretical visibility for the Proposal

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17.3 Existing environment

This section describes the existing landscape at each site within the study area - the accommodation village and mine infrastructure area (Chandler Facility) and the Apirnta Facility. The visual and landscape quality of the proposed development footprint is described and sensitive visual receptors are identified.

17.3.1 Existing landscape

The existing landscape at each site within the study area - the accommodation village and mine infrastructure area (Chandler Facility) and the Apirnta Facility, is described below.

Accommodation village

The proposed accommodation village would be located an area characterised by red sandy loam soil, prostrate grasses dominated by circular clumps of spinifex and sparsely located desert oaks (refer to Plate 17-1). A dune and swale system is the predominant natural landscape feature to the east of the proposed accommodation village.

Plate 17-1 Existing view looking south-west towards the proposed accommodation village

The eastern boundary of the proposed accommodation village is dominated by a vegetated sand dune approximately two to three metres high. The area to the south-west of the proposed accommodation village is dominated by a tall open community of desert oaks.

Views looking south from the proposed accommodation village are dominated by Maryvale Hills (refer to Plate 17-2). Just below Maryvale Hills is the proposed location of the Chandler Facility. The viewing distance is approximately six kilometres from the proposed accommodation village to the proposed Chandler Facility shown in Plate 17-2.

Plate 17-2 Existing view looking south from the proposed accommodation village towards the proposed Chandler Facility– visible on the horizon are Maryvale Hills

Views looking north from the proposed accommodation village are dominated by Charlotte Range (refer to Plate 17-3). Located behind Charlotte Range is Chambers Pillar Road.

Plate 17-3 Existing view looking north-west from the proposed accommodation village – visible in the distance is Charlotte Range

Mine infrastructure area (Chandler Facility)

The proposed mine infrastructure area would be located in an area that is characterised by fine silty and sandy soils and that contains small to medium sized rocks, prostrate grasses and small shrubs (refer to Plate 17-3 to 17-5). The characteristic 'mesa' feature belonging to the Maryvale Hill Geological Formation is shown in Plate 17-5.

Plate 17-4 Existing view looking north across the proposed mine infrastructure area (left) and view looking south-west from the centre of the mine infrastructure area showing mesas (right)

Plate 17-5 Existing view towards the mine portal entry

The existing view from the entrance to the decline portal looking south-west towards Chambers Pillar is shown in Plate 17-6. As shown in Plate 17-6, Chambers Pillar is not visible from the proposed Chandler Facility due to the existing intervening mesas that form Charlotte Range.

Views from Chambers Pillar towards the proposed Chandler Facility and Apirnta Facility are shown in Plate 17-7. Neither the proposed Chandler Facility, nor the Apirnta Facility would be visible from Chambers Pillar due to the existing intervening mesas that form Charlotte Range.

Plate 17-4 Existing view looking south-west from the proposed Chandler Facility towards Chambers Pillar.

Plate 17-5 View east from Chambers Pillar towards the proposed Chandler Facility and Apirnta Facility

Apirnta Facility

The proposed Apirnta Facility would be located in an area that is relatively flat, characterised by sandy soils and prostrate grasses dominated by circular clumps of spinifex (refer to Plate-17-8). The Apirnta Facility would be located beyond the tree line shown in Plate 17-8.

The proposed Apirnta Facility would be positioned up to 500 metres east of the existing Central Australian Railway (refer to Plate 17-8). Access to the proposed Apirnta Facility would be via an existing pastoral lease access track (refer to Plate 17-9)

Plate 17-6 View looking east towards the proposed Apirnta Facility

Plate 17-9 View looking north along the Central Australian Railway - to the east is the site of the proposed Apirnta Facility (left). Access to the site of the proposed Apirnta Facility is via an existing access track (right).

Access and haul roads

Views along the proposed Chandler Haul Road and Henbury Access Road are typically associated with undulating topography, sand dunes and prostrate grasses and low shrubs (Refer to Plate 17-10).

Plate 17-10 View looking east along the proposed Chandler Haul Road. Note the Charlotte Range on the right hand side in the middle of the image.

17.3.2 Visual and landscape quality

The following landscape types characterise the landscape in which the proposed development footprint is located. These include:

- Mesa and range formations.
- Vegetated sand dunes.
- Open grasses and spinifex.
- Flat low lying topography.
- Disturbed grazing land.
- Stock tracks.

The visual quality of these landscape types is summarised in Table 17-1.

Table 17-1 Visual quality assessment of landscape types within the proposed development footprint and vicinity

Landscape type	Visual quality	Description
Mesa and range formations	High	Natural feature of the landscape that is hundreds of millions of years old. Often formed of many contrasting colours that are apparent at different times of the day. Within the vicinity of the proposed development footprint these formations are up to 45 metres high and include the Maryvale Hills and Charlotte Range. Also includes Chambers Pillar located approximately 6.8 kilometres from the proposed Chandler Facility (refer to Plate 17-11).
Vegetated sand dunes	Moderate	A unique landscape feature in the proposed development footprint and vicinity. Dunes are stabilised by prostrate vegetation such as spinifex and native grasses. Sand dunes within the proposed development footprint and vicinity are on average between three to five metres high.
Open grasses and spinifex	Moderate	A traditional landscape feature of the Australian outback (refer to Plate 17-12).
Flat low lying topography	Moderate	A traditional feature of the Australian arid zone. The proposed Chandler Facility and Apirnta Facility are located within predominately flat low lying country with the exception being the surrounding mesa formations noted above.
Disturbed grazing land	Low	The majority of land within the proposed development footprint and vicinity is pastoral (predominantly used for grazing cattle). A lot of the original vegetation on the pastoral land was previously cleared to make way for grazing cattle.
Stock tracks	Low	A feature of the landscape that is a result of historic land use.

Plate 17-8 Example of mesa formations and contrasting colours at Chambers Pillar

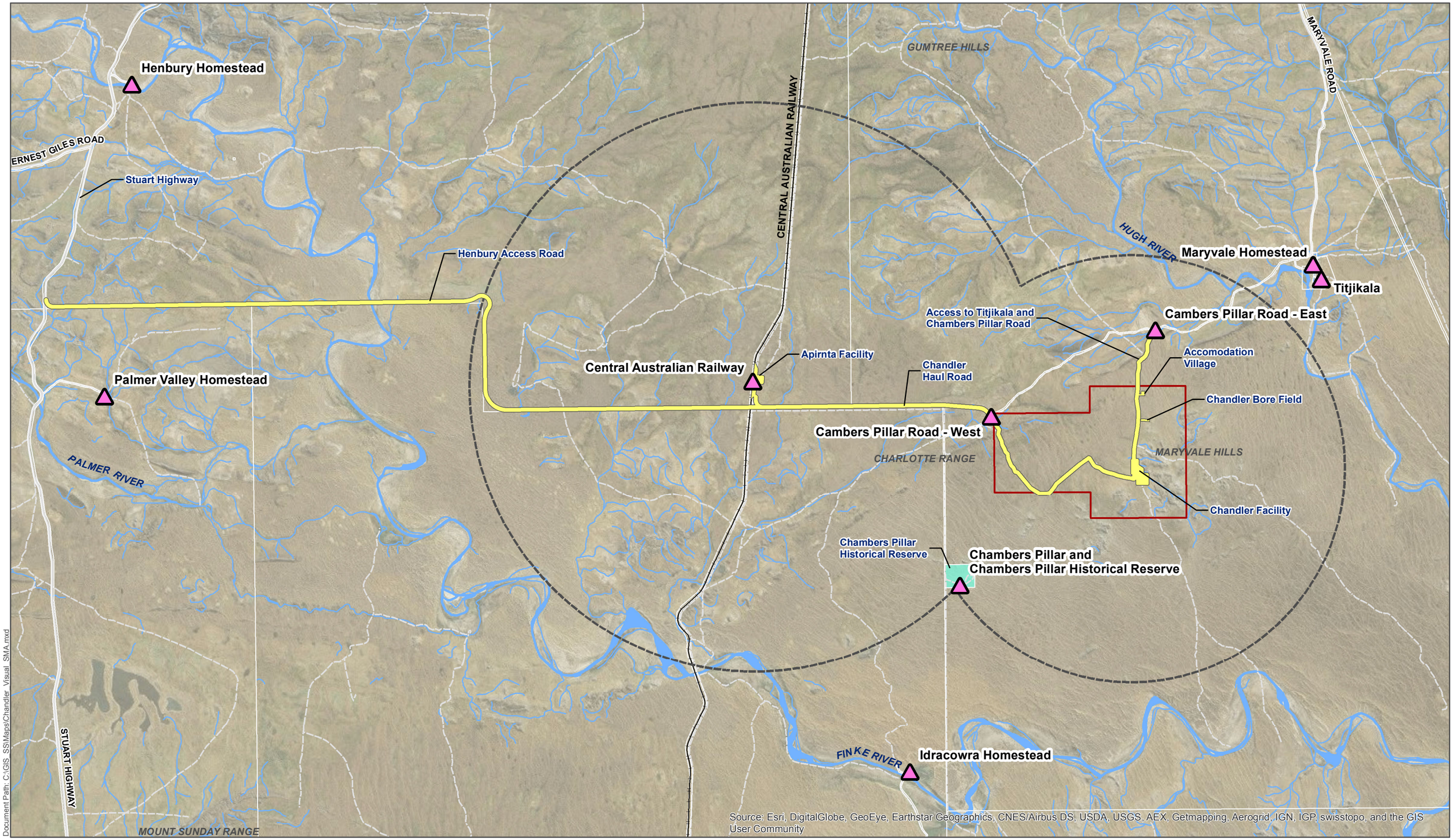
Plate 17-7 Typical clump of spinifex within the proposed development footprint

17.3.3 Sensitive visual receptors

The sensitive visual receptors identified within the zone of theoretical influence were:

- The community of Titjikala.
- Maryvale Homestead.
- Chambers Pillar and Chambers Pillar Historical Reserve.
- Idracowra Homestead.
- Palmer Valley Homestead
- Henbury Homestead.
- Central Australian Railway (in the vicinity of the proposed Apirnta Facility).
- Chambers Pillar Road – East (at the junction of the access road to the proposed accommodation village).
- Chambers Pillar Road – West (at the junction of the proposed Chandler Haul Road).

The location of the sensitive visual receptors is shown in Figure 17-2.



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Coordinate System:
GDA 1994 MGA Zone 53

Legend

- Existing road
- Existing track
- Watercourse
- ML30612
- Proposed development footprint
- Sensitive visual receptor
- Zone of theoretical visibility

Figure 17-2
Sensitive visual receptors

TELLUS

17.4 Assessment of risk during construction

Construction activities would generate visual impacts during the three year construction period. During construction, exposed soils would be visible, along with machinery and equipment required for construction, and the buildings and other infrastructure that would be under construction. The visual impacts would be short-term and limited to the construction period.

It is possible that transient views of construction activities associated with the proposed Apirnta Facility could be seen from within a train travelling north or south along the Central Australian Railway. It is also possible that transient views of construction activities associated with the proposed accommodation village could be seen from vehicles travelling along Chambers Pillar Road. These views would be of a short duration and likely screened by existing vegetation. Therefore, the visual impacts are considered to be minor.

The construction works would not be visible from Maryvale Homestead, the community of Titjikala, Chambers Pillar and Chambers Pillar Historical Reserve, Idracowra Homestead, Palmer Valley Homestead, or Henbury Homestead. This would be due to the distance of the sensitive visual receptors from the proposed construction works and/or due to intervening topography that would block views from the sensitive visual receptors to the proposed construction works (predominately, the Charlotte Range and Maryvale Hills).

17.5 Assessment of risk during operation

This section presents the potential impacts (both direct and indirect) on landscape and visual amenity during operation of the Proposal. Mitigation measures to avoid or reduce these impacts are discussed in Section 17.7.

17.5.1 Direct impacts

The following aboveground infrastructure would be developed as part of the Proposal:

- Accommodation village (Chandler Facility).
- Mine infrastructure area (Chandler Facility), including:
  - Salt processing facilities.
  - Waste unloading area.
  - Waste storage warehouse.
  - Surface hydraulic backfill plant and underground reticulation.
  - Salt and overburden stockpiles.
  - Maintenance buildings.
  - Administration buildings.
  - Solar/diesel hybrid power plant.
  - Clean and raw water dams.
  - Water and sewage treatment.
  - Fuel storage facility.
  - Utility reticulation.
  - A future technology recovery park.

- Apirnta Facility, including:
  - Storage areas for dry and solid waste materials - a steel-framed warehouse and open storage yard.
  - A liquid storage tank to store a variety of liquid wastes.
  - Road and rail interchange areas and a rail siding.
  - A quarantine zone.
  - Internal roads and car parking.
  - Laboratory, office and maintenance and storage shed.
  - Loading bay, weighbridge and vehicle washdown facility.
  - Truck driver amenities.
  - Security gates, fencing, cameras and lighting.
  - Bunding and stormwater drainage.
  - Electricity, water and sewerage services.
- Henbury Access Road and Chandler Haul Road.

A graphical representation of the mine infrastructure area (Chandler Facility) and the Apirnta Facility are provided in Plate 17-13 and Plate 17-14.

Plate 17-9 Graphical representation of proposed above ground infrastructure within the mine infrastructure area (Chandler Facility).

All of the above proposed infrastructure (with the exception of the Henbury Access Road and Chandler Haul Road) would involve the construction of a range of buildings and associated structures, hardstand areas and landscaping.

Plate 17-10 Graphical representation of proposed above ground infrastructure at the Apirnta Facility.

Potential visual amenity impacts would depend on a range of factors including:

- The final locations of above ground infrastructure.
- The height of above ground infrastructure.
- The design and exterior finishes of the buildings and other structures.
- Landscaping and screening provided.
- The extent of clearing required.

The potential landscape and visual amenity impacts of the proposed accommodation village and mine infrastructure area (Chandler Facility), the Apirnta Facility and the Chandler Haul Road and Henbury Access Road are discussed below.

Accommodation village (Chandler Facility)

The siting of the proposed accommodation village took into account topography, soils, vegetation, wind direction and flood risk. The accommodation village would result in a long term change to the landscape in this area, however, with careful design (building finishing and colour), and appropriate landscaping, the landscape would be able to absorb the predicted change.

It is possible that transient views of the proposed accommodation village could be seen from vehicles travelling along Chambers Pillar Road (refer to Sheet 2, Figure 17-3). These views would be of a short duration and likely screened by existing vegetation. Therefore, the visual impacts are considered to be minor. Mitigation and management measures to reduce this potential impact are discussed in Section 17.7.

The proposed accommodation village would not be visible from any of the other identified sensitive visual receptors during operation of the Proposal. This would be due to the distance of the sensitive visual receptors from the proposed accommodation village and due to intervening topography. Henbury Homestead and Palmer Valley Homestead are located over 72 kilometres to the west of the proposed accommodation village (well outside of the zone of theoretical visibility). At these distances, the proposed accommodation village would not be visible. In addition, the proposed accommodation village would not be visible from Maryvale Homestead or from the community of Titijikala due to intervening topography (views from the north would be blocked by Charlotte Range, refer to Sheet 3, Figure 17-3). Similarly, the proposed accommodation village would not be visible from Chambers Pillar, Chambers Pillar Historical Reserve or from Idracowra Homestead due to intervening topography (views from the south would be blocked by Maryvale Hills, refer to Sheet 1, Figure 17-3).

Mine infrastructure area (Chandler Facility)

Construction and operation of the proposed Chandler Facility would result in long term changes (25 plus years) to the existing landscape character of the area. Landscape impacts would arise as a result of above ground infrastructure required to support the underground salt mine. Without appropriate landscape and visual amenity mitigation in place, adverse impacts on the existing landscape would occur over the long term.

The proposed mine infrastructure area would not be visible from any of the identified sensitive visual receptors during operation of the Proposal. This would be due to the distance of the sensitive visual receptors from the proposed mine infrastructure area and due to intervening topography. Henbury Homestead and Palmer Valley Homestead are located over 72 kilometres to the west of the proposed mine infrastructure area (well outside of the zone of theoretical visibility). At these distances, the proposed mine infrastructure area would not be visible. In addition, the proposed mine infrastructure area would not be visible from Maryvale Homestead or from the community of

Titjikala due to intervening topography (views from the north would be blocked by Charlotte Range, refer to Sheet 3, Figure 17-3). Similarly, the proposed mine infrastructure area would not be visible from Chambers Pillar, Chambers Pillar Historical Reserve or from Idracowra Homestead due to intervening topography (views from the south would be blocked by Maryvale Hills, refer to Sheet 1, Figure 17-3).

Apirnta Facility

Construction and operation of the proposed Apirnta Facility would result in long term changes 925 plus years) to the existing landscape character of the area. Landscape impacts would arise as a result of above ground infrastructure required to support the Chandler Facility. Without appropriate landscape and visual amenity mitigation in place, adverse impacts on the existing landscape would occur over the long term.

It is possible that transient views of the proposed Apirnta Facility could be seen from within a train travelling north or south along the Central Australian Railway. These views would be of a short duration and screened by existing vegetation. Therefore, the visual impacts are considered to be minor. Mitigation and management measures to reduce this potential impact are discussed in Section 17.7.

The proposed Apirnta Facility would not be visible from any of the other identified sensitive visual receptors during operation of the Proposal. This would be due to the distance of the sensitive visual receptors from the proposed Apirnta Facility and due to intervening topography. Henbury Homestead and Palmer Valley Homestead are located over 45 kilometres to the west of the proposed Apirnta Facility (well outside of the zone of theoretical visibility). Maryvale Homestead and the community of Titjikala are also located over 39 kilometres to the east of the proposed Apirnta Facility (also well outside of the zone of theoretical visibility).

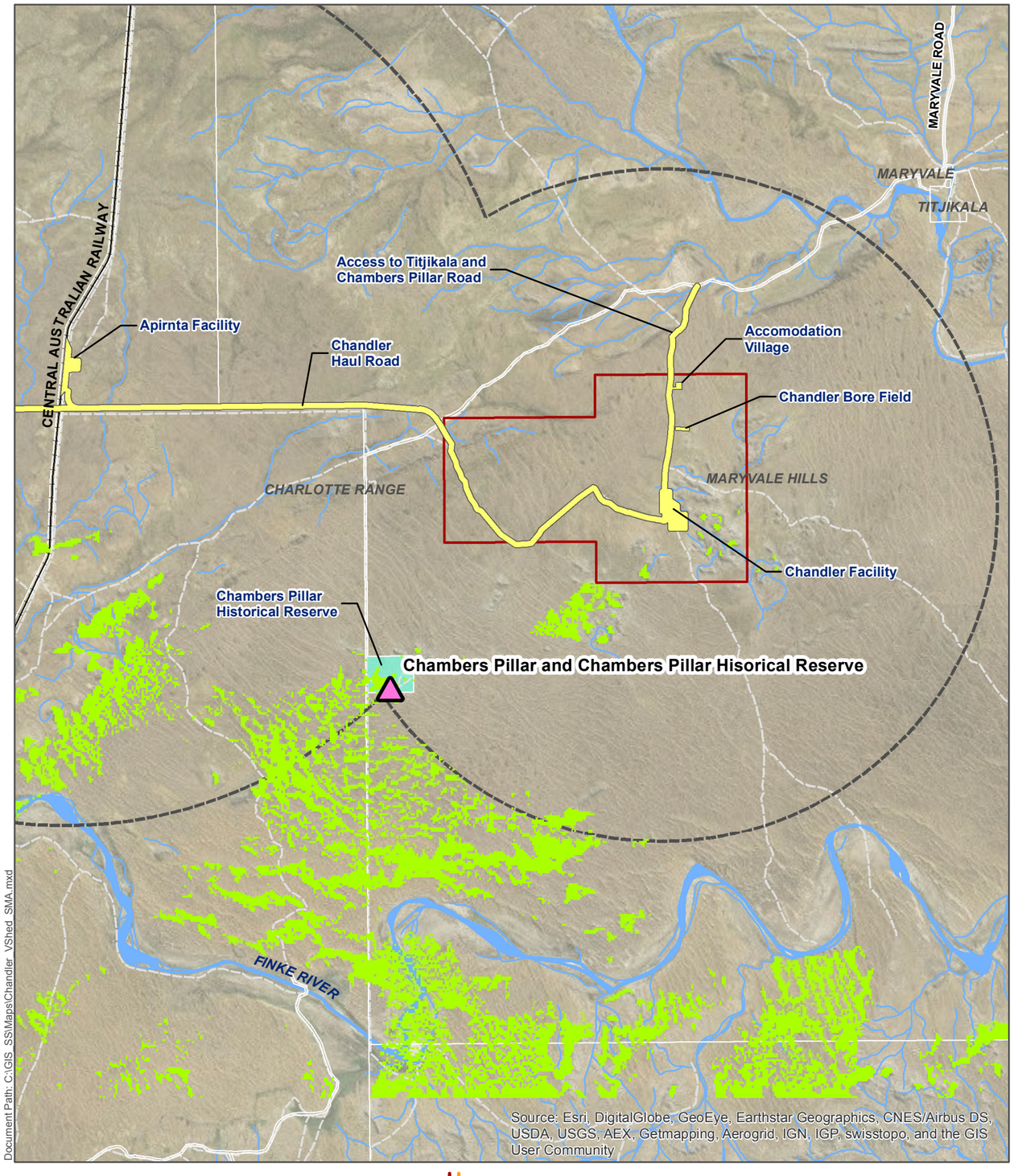
At these distances, the proposed Apirnta Facility would not be visible (refer to Sheet 3, Figure 17-3). In addition, the proposed Apirnta Facility would not be visible from the Chambers Pillar, Chambers Pillar Historical Reserve or from Idracowra Homestead due to intervening topography (views from the south would be blocked by Maryvale Hills, refer to Sheet 1, Figure 17-3).

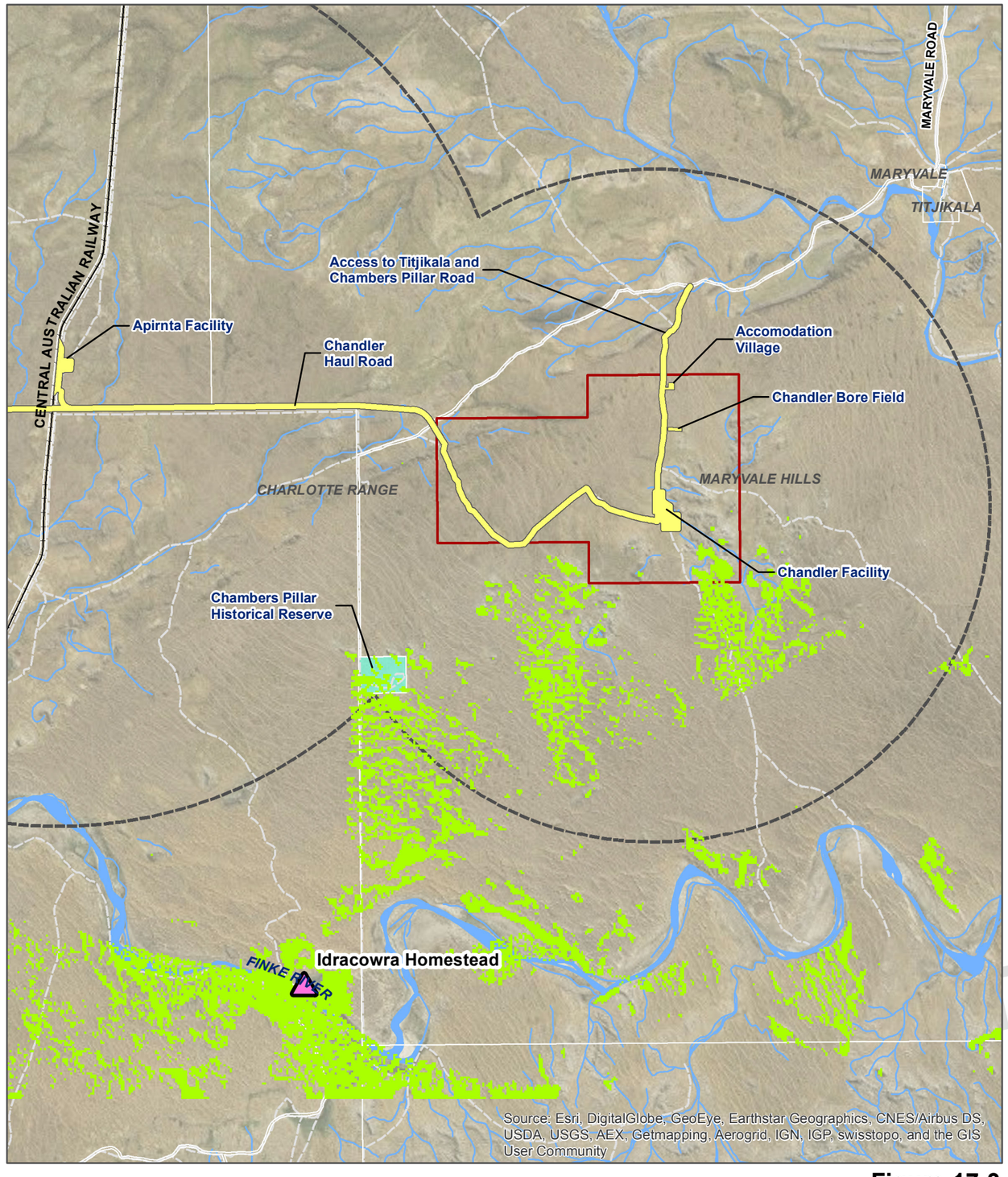
Chandler Haul Road and Henbury Access Road

Two existing access tracks located within the proposed development footprint would be converted into the proposed Henbury Access Road and Chandler Haul Road. The existing access tracks would be widened but would be constructed of the same materials as the existing access tracks. Therefore, there would be little change to the existing landscape character in the vicinity of the proposed Henbury Access Road and Chandler Haul Road.

Transient views of the proposed Henbury Access Road and Chandler Haul Road would likely be visible from the Central Australian Railway and from Chambers Pillar Road during operation of the Proposal. The proposed Henbury Access Road and Chandler Haul Road would likely not be visible from any of the other identified sensitive visual receptors during operation of the Proposal. This

would be due to the distance of the sensitive visual receptors from the proposed Henbury Access Road and Chandler Haul Road and due to intervening topography that would block views from the sensitive visual receptors to the proposed Henbury Access Road and Chandler Haul Road (specifically, Charlotte Range and Maryvale Hills).





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Coordinate System:
GDA 1994 MGA Zone 53

Legend

- Existing road
- Existing track
- Watercourse
- ML30612
- Proposed development footprint
- Landscape visible from sensitive visual receptor
- Zone of visual influence
- Sensitive visual receptor

Figure 17-3
Viewshed analysis (Sheet 1) - Chambers Pillar and Chambers Pillar Historical Reserve and Idracowra Homestead

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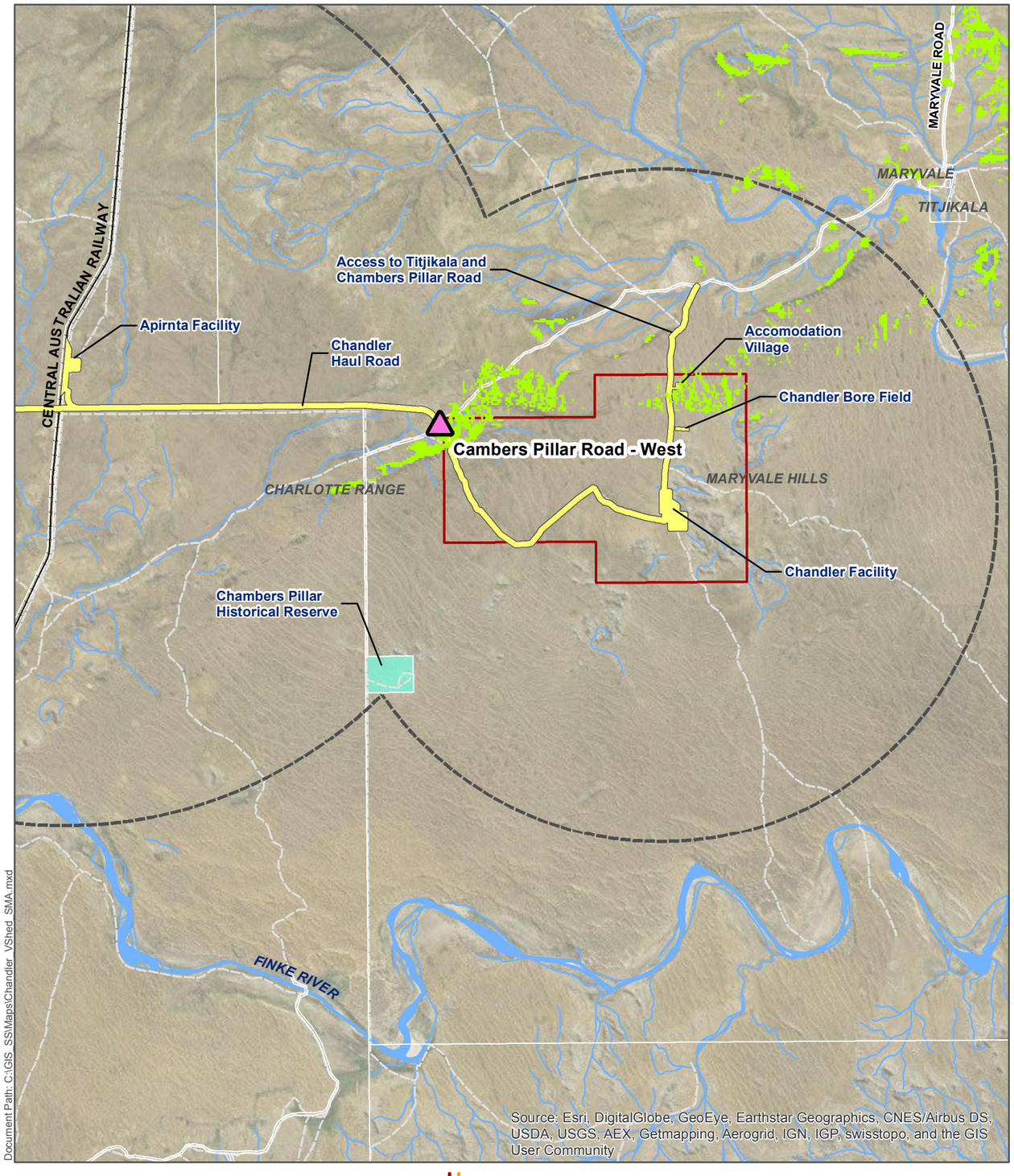

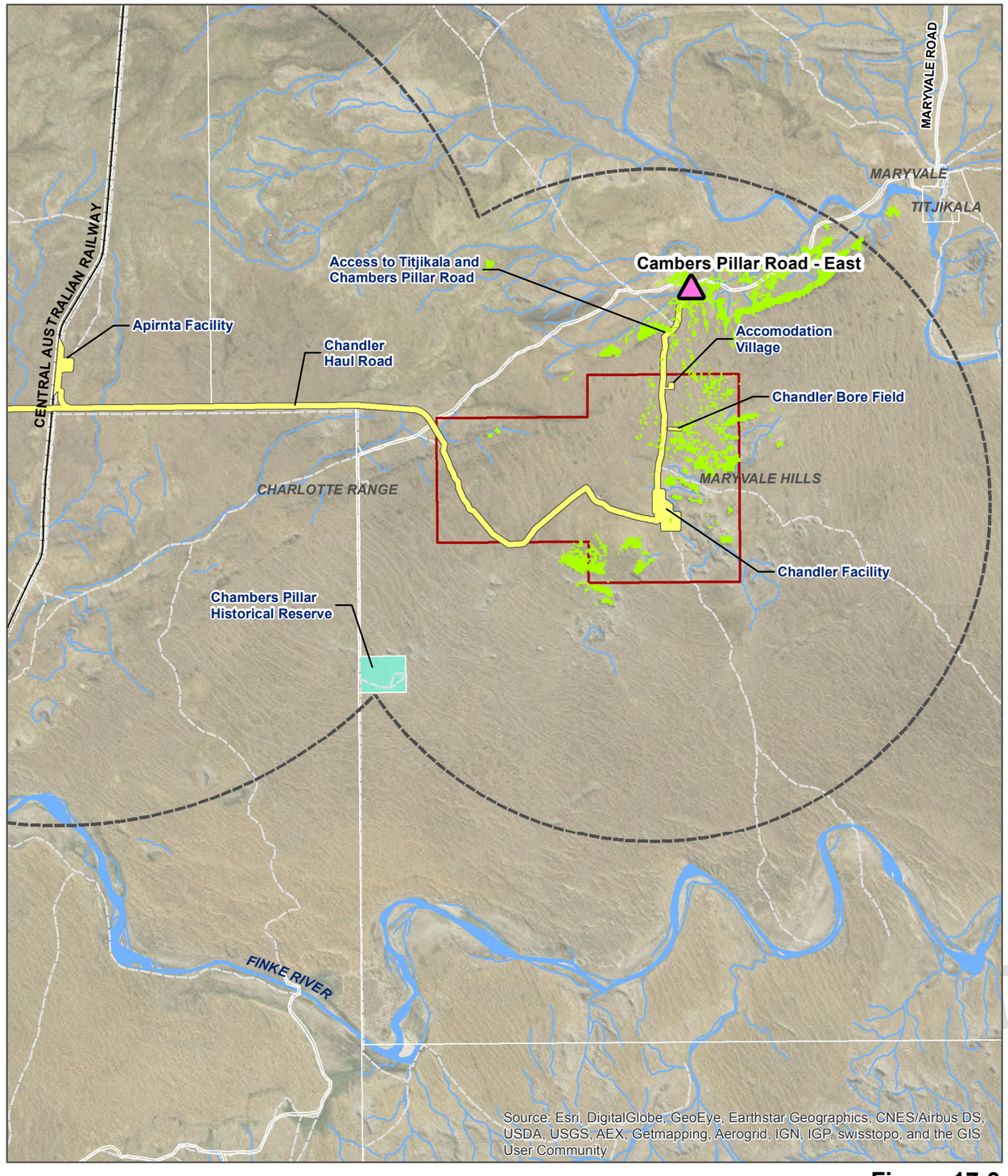

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Legend

- Existing road
- Existing track
- Watercourse
- ML30612
- Proposed development footprint
- Landscape visible from sensitive visual receptor
- Zone of visual influence
- Sensitive visual receptor

Figure 17-3
Viewshed analysis (Sheet 2) - Chambers Pillar Road

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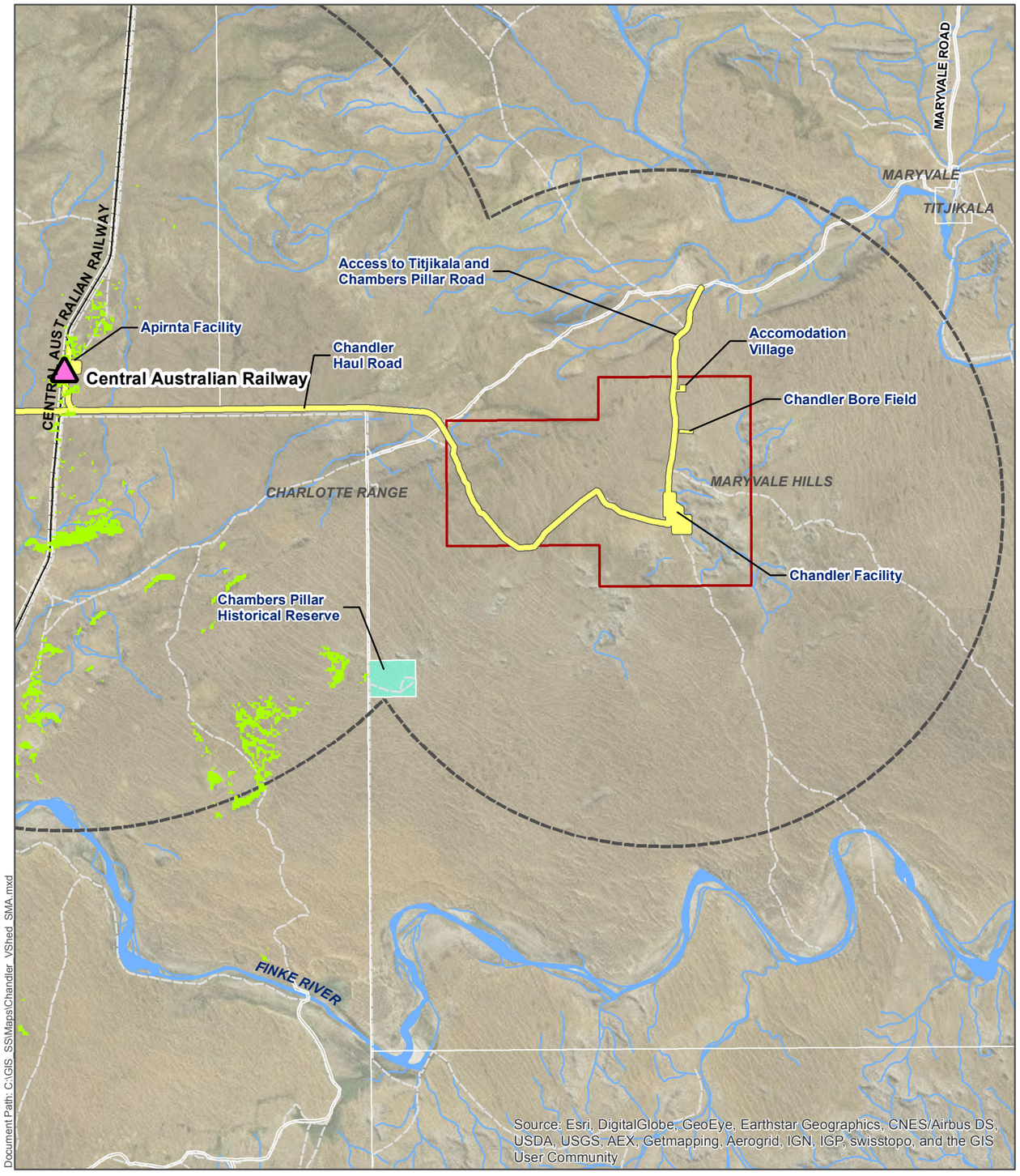

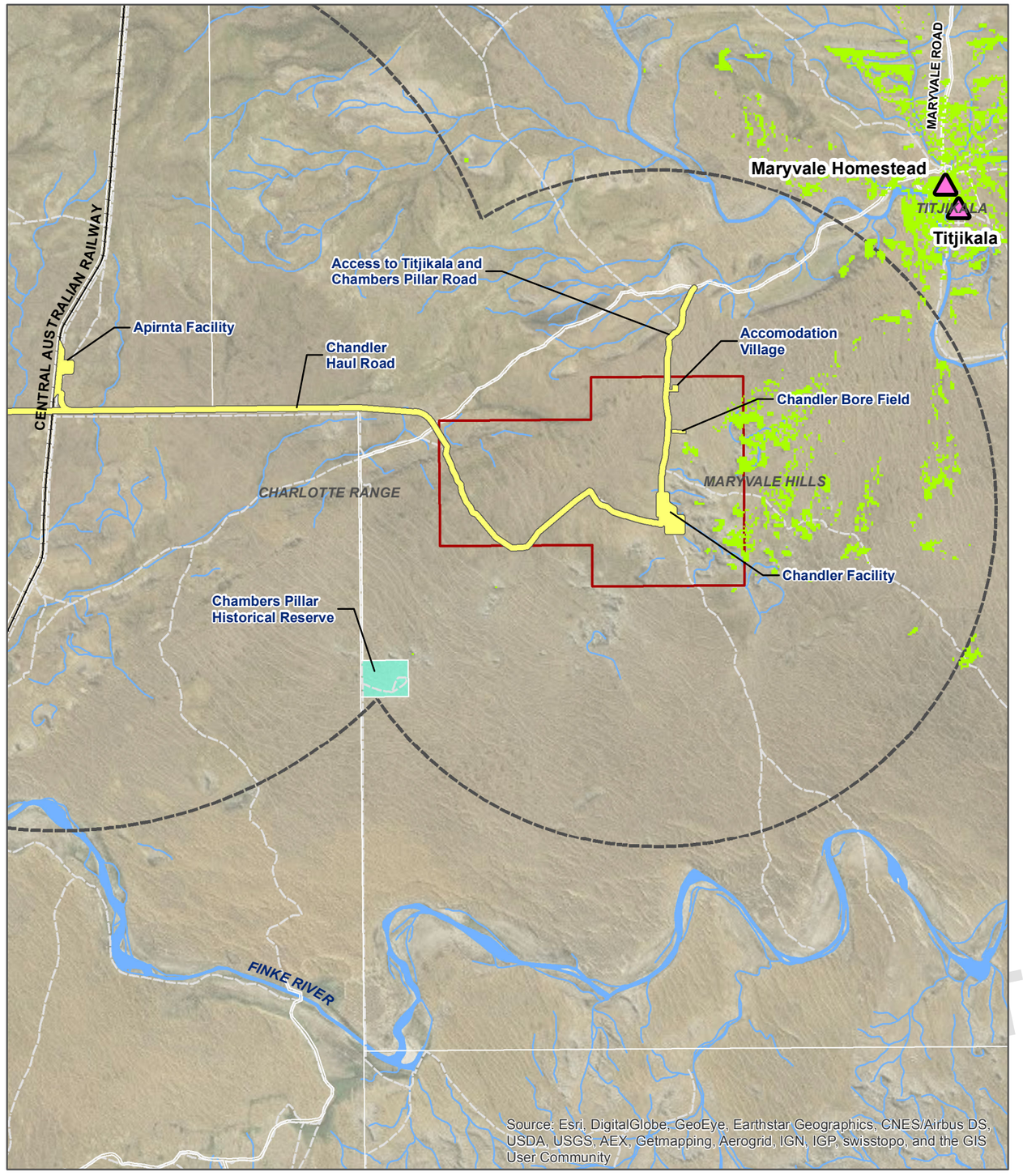

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Coordinate System:
GDA 1994 MGA Zone 53

Legend

- Existing road
- Existing track
- Watercourse
- ML30612
- Proposed development footprint
- Landscape visible from sensitive visual receptor
- Zone of visual influence
- Sensitive visual receptor

Figure 17-3
Viewshed analysis (Sheet 3) - Central Australian Railway
Titjikala and Maryvale Homestead

TELLUS

17.5.2 Indirect impacts

Permanent changes to the landscape and the degree of contrast or integration of new features with existing or remaining landscape elements and characteristics may adversely impact cultural values associated with country for Traditional Owners. Therefore, judging the magnitude of the visual effects in terms of the relative amount of time over which it would be experienced, and whether views would be full, partial or glimpses, is at this stage of pre-development considered a moderate impact requiring further investigation during detailed design.

17.6 Closure and rehabilitation

Closure would involve the removal of all above ground infrastructure. Rehabilitation would follow the requirements of a RCP (refer to Chapter 13). The visual impacts associated with closure and rehabilitation would be similar to those during construction of the Proposal.

It is possible that transient views of closure and rehabilitation activities associated with the proposed Apirnta Facility could be seen from within a train travelling north or south along the Central Australian Railway. It is also possible that transient views of closure and rehabilitation activities associated with the proposed accommodation village could be seen from vehicles travelling along Chambers Pillar Road. These views would be of a short duration and likely screened by existing vegetation. Therefore, the visual impacts are considered to be minor.

The closure and rehabilitation works would not be visible from Maryvale Homestead, the community of Titjikala, Chambers Pillar, Chambers Pillar Historical Reserve, Idracowra Homestead, Palmer Valley Homestead, or Henbury Homestead. This would be due to the distance of the sensitive visual receptors from the proposed closure and rehabilitation works and/or due to intervening topography that would block views from the sensitive visual receptors to the proposed closure and rehabilitation works (predominately, the Charlotte Range and Maryvale Hills).

17.7 Mitigation and monitoring

Mitigation and management measures proposed to minimise the impacts on visual amenity during construction, operation, and closure and rehabilitation of the Proposal are listed in Table 17-2. These measures would be incorporated into the CEMP, OEMP and/or RCP for the Proposal.

17.8 Summary of risk assessment

A summary of the risk assessment undertaken for visual impact assessment during construction, operation, and closure and rehabilitation of the Proposal is provided in Table 17-3.

Table 17-2 Summary of risk assessment (visual)

Hazard	Pre-mitigated risk			Post-mitigated risks			Risk outcome
	Likelihood	Consequence	Risk ranking	Likelihood	Consequence	Risk ranking	
Visibility of above ground infrastructure	Almost certain	Minor	High	Unlikely	Minor	Low	Risk reduced
Visibility of decline entry	Almost certain	Minor	High	Unlikely	Minor	Low	Risk reduced
Visibility of spoil stockpiles	Almost certain	Minor	High	Unlikely	Minor	Low	Risk reduced
Visibility of run of mine salt stockpile	Almost certain	Minor	High	Unlikely	Minor	Low	Risk reduced
Visibility of detention/sediment ation ponds	Almost certain	Minor	High	Unlikely	Minor	Low	Risk reduced
Visibility of access roads	Almost certain	Minor	High	Unlikely	Minor	Low	Risk reduced
Visibility of accommodation village	Almost certain	Minor	High	Unlikely	Minor	Low	Risk reduced
Subsidence causing changes to land form	Unlikely	Moderate	Medium	Unlikely	Minor	Low	Risk reduced

Table 17-3 Mitigation and management measures (landscape and visual amenity)

ID	Outcome	Mitigation/management measure	Timing
LV.1	Landscape management	Prepare a Landscape Concept Plan as part of the detailed design of the Proposal. Measures in the plan would include the consideration of existing landscape features when siting infrastructure and choosing building materials and treatments to minimise the potential visibility of the Proposal.	Detailed design
LV.2	Avoid visual impacts on potential items of cultural sensitivity	Consult with Traditional Owners during the detailed design of the Proposal.	Detailed design
LV.3	Screening of infrastructure	Where possible, utilise existing features of the landscape, such as existing shrubs and trees, to screen and minimise visual impacts of infrastructure and/or permanent structures.	Detailed design
LV.4	Complement the existing landscape	Choose external building finishes to minimise visual impact. Recessive, low reflectivity finishes that blend with the adjoining bushland wold be used. Roof colours and finishes would complement the colour of the building facades and the hues would aim to blend with the colours prevailing in the surrounding landscape.	Detailed design
LV.5	Minimise the impact of uncharacteristic features in the landscape	Avoid the use of highly reflective surfaces/colours, brightly coloured or strongly contrasting materials, and unpainted metal.	Detailed design
LV.6	Minimise the impact of uncharacteristic features in the landscape	Ensure boundary fences are simple, non-reflective and have a high degree of transparency.	Detailed design
LV.7	Mitigate plant loss and screening of infrastructure	Plant trees (in accordance with the recommendations of the Biodiversity Management Plan) to reduce the visual impacts of the Proposal. Tree planting would give scale to the buildings, provide amenity (shade) for employees, and screen areas, such as stockpiles and hardstand areas.	Prior to operation
LV.8	Provide future ecological opportunities	Ensure native and endemic species are used during tree planting to ensure that the existing landscape character is retained.	Prior to operation
LV.9	Avoidance of bushfires	Ensure trees are planted on the perimeter of hardstand areas and out of the bushfire buffer zones.	Construction and operation

17.9 Conclusion

It is possible that transient views of the proposed accommodation village could be seen from vehicles travelling along Chambers Pillar Road during construction, operation, and closure and rehabilitation of the Proposal. It is also possible that transient views of the proposed Apirnta Facility could be seen from within a train travelling north or south along the Central Australian Railway during construction, operation, and closure and rehabilitation of the Proposal. These views would be of a short duration and likely screened by existing vegetation. Therefore, the visual impacts are considered to be minor. Mitigation and management measures would be implemented to reduce these potential impacts.

None of the proposed infrastructure would be visible from Maryvale Homestead, the community of Titjikala, Chambers Pillar, Chambers Pillar Historical Reserve, Idracowra Homestead, Henbury Homestead or Palmer Valley Homestead during construction, operation or during closure and rehabilitation of the Proposal. This would be due to the distance of the sensitive visual receptors from the proposed infrastructure and due to intervening topography, that blocks views from the sensitive visual receptors to the proposed infrastructure (predominantly, Charlotte Range and the Maryvale Hills).

The proposed above ground infrastructure would be long term features within the existing landscape. Without appropriate landscape and visual amenity measures in place, this is considered to have a high visual impact on the existing landscape character and visual amenity of the area. Mitigation and management measures identified in Table 17-2 would be implemented to minimise these impacts. These measures would also mitigate visual impacts that could apply to cultural heritage.